**BEFORE THE HEARING EXAMINER**
**FOR SKAMANIA COUNTY**

| | | |
|---|---|---|
| In the Matter of the Appeals of<br><br>**Friends of the Columbia Gorge, Save our Scenic Area, Gifford Pinchot Task Force, and Columbia Riverkeeper**<br><br>Of a SEPA DNS. | ) | NO. SEP-08-35<br><br>FINDINGS, CONCLUSIONS, AND DECISION |

## SUMMARY OF DECISION

The appeals of the October 8, 2008 Determination of Nonsignificance issued for the County's proposed zoning text and map amendments are **GRANTED**.

## SUMMARY OF RECORD

Background

Skamania County seeks to amend the text and maps of its zoning code (Title 21 Skamania County Code) consistent with its adopted Comprehensive Plan and subarea plans. The County issued a Determination of Nonsignificance for the proposed amendments (known as the Planning Commission Recommended Draft) on October 8, 2008. Save our Scenic Area, and a group of organizations including Friends of the Columbia Gorge, Gifford Pinchot Task Force, and Columbia Riverkeeper filed appeals of the Determination of Nonsignificance on October 22, 2008.

Hearing Date

The Hearing Examiner for Skamania County held an open record hearing on the appeals on January 21 and 22, 2009.

Testimony

The following individuals presented testimony under oath at the open record appeal hearing:

1. Karen Witherspoon, Director of Community Development, Skamania County
2. Heather Watson, Assistant Planner, Skamania County
3. Dean Apostol, Landscape Architect[1]
4. K. Shawn Smallwood, Ph.D., Ecologist[2]
5. Richard James, E-Coustic Solutions, Acoustical Engineer[3]
6. Nina Pierpont, M.D., Ph.D., Physician[4]
7. Nathan Baker, Staff Attorney, Friends of the Columbia Gorge

[1] Please refer to Exhibit G.1 for Mr. Apostol's qualifications.
[2] Please refer to Exhibits G.4 and C.21 for Mr. Smallwood's qualifications.
[3] Please refer to Exhibit 7.1 for Mr. James' qualifications.
[4] Please refer to Exhibit 1.1 for Dr. Pierpont's qualifications.

Legal Counsel

- Attorney J. Richard Aramburu represented Appellant Save our Scenic Area
- Attorney Richard A. Poulin represented Appellants Friends of the Columbia Gorge, Gifford Pinchot Task Force, and Columbia Riverkeeper
- Attorney Peter Banks, Skamania County Prosecutor, represented Skamania County

Exhibits

The documents listed on Appendix A to this Decision (Exhibit List) were admitted into the record. Additional documents were filed on January 26, 2009, after the Hearing Examiner had closed the record to new evidence. The Hearing Examiner did not consider the January 26 documents and they are not admitted into the record.

In addition to the documents identified in Appendix A, the Hearing Examiner considered the following legal memoranda:

- Pre-Hearing Brief of Appellants Friends of the Columbia Gorge, Inc.; Gifford Pinchot Task Force; and Columbia Riverkeeper (December 9, 2008)
- Opening Brief of Save our Scenic Area (December 9, 2008)
- Response Brief of Skamania County (January 2, 2009)
- Reply Brief of Appellants Friends of the Columbia Gorge, Inc.; Gifford Pinchot Task Force; and Columbia Riverkeeper (January 15, 2009)
- Citations to Exhibits of Appellants Friends of the Columbia Gorge, Inc.; Gifford Pinchot Task Force; and Columbia Riverkeeper (January 29, 2009)
- SOSA's Exhibits Citations and References (January 29, 2009)

The Hearing Examiner also considered the 2007 Comprehensive Plan, the Carson Community Subarea Plan, the Swift Subarea Plan, the West End Community Comprehensive Subarea Plan, and the Skamania County Code.

Upon consideration of the testimony and exhibits admitted at the open record hearing, the Hearing Examiner enters the following Findings and Conclusions:

## FINDINGS

*General*

1. Skamania County seeks to amend the text and maps of its zoning code (Title 21 Skamania County Code) consistent with its adopted Comprehensive Plan and subarea plans. The amendments would apply to all lands within unincorporated Skamania County that are not designated as Columbia River Gorge National Scenic Area (hereafter, "National Scenic Area" or "Scenic Area").[5] The Scenic Area generally includes the southern portion of Skamania County, although there are "islands" of urban area (including unincorporated land) that are not within the Scenic Area. Thus, the proposed

[5] Land uses within the National Scenic Area are governed by Title 22 of the Skamania County Code (Columbia River Gorge National Scenic Area Ordinance).

amendments would apply to some parcels that, while not designated as Scenic Area, are surrounded by Scenic Area lands. *AR-50; Testimony of Ms. Witherspoon; County Exhibit 2.*

2. In the testimony and written materials there are references to two proposed drafts of Title 21 – the (1) Board-Initiated Draft and the (2) Planning Commission Recommended Draft. The Board-Initiated Draft was the first draft of the proposed amendments. The Planning Commission Recommended Draft contains the changes to the first draft that were recommended by the Planning Commission after considering public comment. The changes are substantial. The draft of Title 21 that is under review is the Planning Commission Recommended Draft, found in the record at AR-72 to 226.[6] *AR-51.*

3. According to the 2007 Comprehensive Plan, Skamania County is approximately 1,070,080 acres in area. It is the only county in Washington State that spans the crest of the Cascade Mountains. Approximately 80 percent of the County (855,000 acres) is within the Gifford Pinchot National Forest. Approximately five percent of the County (59,876 acres) is owned by the State of Washington.[7] Approximately 85,000 acres of the remaining land is within the National Scenic Area. *2007 Comprehensive Plan, pages 17-18.*

4. The planning documents in effect for the portions of Skamania County outside of the National Scenic Area include the 2007 Comprehensive Plan, the Swift Subarea Plan, the West End Community Subarea Plan, and the Carson Community Subarea Plan. With respect to those lands governed only by the 2007 Comprehensive Plan (i.e., not within a subarea), there are three land use designations: Rural I (2,758 acres), Rural II (13,440 acres), and Conservancy (817,826 acres). *AR-57.* The zoning classifications currently in effect for those designations include the following: Residential 1, 2, 5, and 10, Rural Estate, Community Commercial, Commercial Recreation, Industrial, Resource Production 10 and 20, Natural, and Unmapped. *SCC 21.24.021.* In addition, there are two zoning classifications applicable to the Northwestern Lake area – Residential 2 and Residential 5. *SCC 21.55.*

5. The Swift Subarea includes approximately 92,191 acres, and the Comprehensive Plan indicates that approximately 34,000 of the acres are privately owned.[8] There are six land use designations within the Swift Subarea, including Swift Recreational, Swift Commercial Resource Lands, Swift Forest Lands 20, Mountain Recreational 20,

---

[6] The proposed zoning map is found at AR-232.

[7] The County provided slightly different numbers in its brief – a total land area of 1,073,370 acres, with 932,034 acres consisting of state or federal public lands and the remaining 141,336 acres (13 percent) privately owned. *Response Brief of Skamania County, page 1.* These numbers do not affect the outcome of the decision.

[8] There is some discrepancy between the total acreage reported in the Environmental Checklist and the total acreage reported in the Comprehensive Plan. The total acreage in this finding is based on the Environmental Checklist. It is not clear whether the acreage of privately owned land has also changed from what is reported in the Comprehensive Plan.

Mountain Recreational 10, and Mountain Recreational 5. *2007 Comprehensive Plan, page 18; Swift Subarea Plan, pages 14 – 21; AR-57.*

6. The West End Subarea includes approximately 60,000 acres, and the Comprehensive Plan indicates that approximately 31,000 of the acres are privately owned.[9] There are seven land use designations within the West End Subarea, including Rural Lands 2, Rural Lands 5, Rural Lands 10, Forest Lands 20, Commercial Resource Lands, Neighborhood Commercial, and Community Commercial. *2007 Comprehensive Plan, page 18; West End Subarea Plan, Figure 3-1; AR-57.*

7. The Carson Subarea includes approximately 2,000 acres. There are four land use designations within the Carson Subarea, including High Density Residential, Rural Residential, Rural Estate, and Business Center. *AR-57; Carson Subarea Plan, pages 2 – 5.*

8. Much of Skamania County is classified as "Unmapped", meaning that no zoning has been assigned.[10] Within unmapped areas, "all uses which have not been declared a nuisance by statute, resolution, ordinance, or court of jurisdiction are allowable." *SCC 21.64.020.* Land uses within unmapped areas are not subject to the standards or conditions of the zoning code. *Id.*

9. The unmapped lands in Skamania County are mostly commercial forestland or Gifford Pinchot National Forest. According to County Ordinance No. 2008-01, at least 15,000 acres of the unmapped lands are privately owned. *Exhibit H.4; Testimony of Ms. Witherspoon.*

10. Skamania County has had a moratorium in effect since July 10, 2007 (date of adoption of most recent Comprehensive Plan) on the following development activities on unmapped lands:

    - The acceptance and processing of any building, mechanical or plumbing permits on any parcel of land that is 20 acres or larger that was created by deed since January 1, 2006
    - The acceptance and processing of land divisions
    - The acceptance and processing of SEPA checklists related to forest practice conversions

---

[9] There is some discrepancy between the total acreage reported in the Environmental Checklist and the total acreage reported in the Comprehensive Plan. The total acreage in this finding is based on the Environmental Checklist. It is not clear whether the acreage of privately owned land has also changed from what is reported in the Comprehensive Plan.

[10] Prior to 2007, the County's Comprehensive Plan only addressed the southern portion of Skamania County. *2007 Comprehensive Plan, pages 10 and 21.*

*Exhibit H.4.* The reasons for the moratorium include that much of the unmapped land is on rugged terrain that is not served by County roads or electricity, and that many areas are prime habitat for federal or state listed species of fish and wildlife. *Exhibit H.4.*

11. The Planning Commission Recommended Draft (and associated zoning map) would accomplish the following:

- Zone all previously unmapped land, including the land under federal ownership.
- For the land outside of the subareas, eliminate the Resource Production 10 and 20 zones and add Business Park, Forest Lands 20, and Commercial Resource Lands 40 zones.
- Zone the Swift Subarea consistent with the Swift Subarea Plan (zoning designations: Mountain Recreational 5, 10, and 10, Swift Forest Lands 20, Swift Commercial Resource Lands 40, and Swift Recreation).
- Zone the West End Subarea consistent with the West End Subarea Plan (zoning designations: Rural Lands 2, 5, and 10, West End Forest Lands 20, West End Commercial Resource Lands 40, and Neighborhood Commercial).
- Add a new section to the zoning code (SCC 21.70.170) on alternate energy systems, which would apply to the installation of any alternate energy facility located within unincorporated Skamania County, except for the General and Special Management Areas of the National Scenic Area (*AR-203*).

A list of all of the proposed zoning designations and the acreage allocated to each is set forth in the Environmental Checklist at AR-56 to 57. *AR-50, 51, 56, and 57; County Exhibit 2.*

12. The proposed Alternate Energy Systems section contains standards relating to the following facilities:

- Rooftop Wind Energy Systems[11]
  Key provisions:
  - One per structure
  - Maximum height: 15 feet above maximum for structure
- Small-Scale Wind Energy Facilities[12]
  Key provisions:
  - No limit on number
  - Maximum height: 65 to 80 feet
  - Minimum property line setback: 1.1 times the height
- Large-Scale Wind Energy Facilities[13]

[11] The proposed definition for rooftop wind energy system is "a small wind energy system that is installed onto a structure supplying power directly to that structure." *AR-82.*
[12] The proposed definition for small-scale wind energy facilities is "Wind turbines which will be used primarily to reduce on-site consumption of utility power to farms, homes, or businesses." *AR-83 (SCC 21.08.010).*

Key provisions:

- No limit on number
- Maximum height: 500 feet
- Minimum property line setback (exterior): 50 feet plus height of structure
- Minimum setback from residential structures or zones: one-half mile

- Large-Scale Solar Facilities[14]
- Geothermal Resources[15]
- Bio-Energy Facilities[16]

Key provision:

- Minimum setback from residential structures or zones: one-half mile

*AR-203 to 214 (SCC 21.70.170).*

13. The current zoning ordinance does not contain any standards relating to alternate energy systems, although geothermal energy facilities are identified as conditional uses in the R-1, R-2, R-5, R-10, Rural Estate, and Resource Production zones. *SCC 21.28.030, 21.32.031, 21.36.031, 21.40.030, 21.44.030, and 21.56.030.* The County would regulate wind power facilities as "utilities" under the existing code. *Testimony of Ms. Witherspoon.* Public Facilities and Utilities[17] are allowed in the residential and Rural Estate zones. Semi-Public Facilities[18] are conditionally allowed in the residential and Rural Estate zones, and Semi-Public Facilities and Utilities are conditionally allowed in the Resource Production zones. *SCC 21.28.020 and -.030, 21.32.020 and -.031, 21.36.020 and -.031, 21.40.020 and .030, 21.44.020 and -.030, and 21.56.030.* The Hearing Examiner was not able to locate any use classification relating to private utility systems.

14. Under the Planning Commission Recommended Draft, rooftop wind turbines would be allowed outright in the residential zones, and small-scale wind energy facilities would be

---

[13] The proposed definition for large-scale wind energy facility is "An electricity-generating facility consisting of wind turbines or other such devices and their related or supporting facilities that produce electric power from wind to be sold and used off-site." *AR-79 (SCC 21.08.010).*

[14] The proposed definition for large-scale solar facilities is "photovoltaic energy systems and/or solar thermal technology energy systems that use reflective materials that concentrate the sun's heat energy to drive a generator that produces electricity." *AR-79 (SCC 21.08.010).*

[15] The proposed definition of geothermal energy facilities is "A facility used to produce electricity by extracting and converting the natural thermal energy from the earth." *AR-78 (SCC 21.08.010).* There are no standards for Geothermal Resources other than compliance with RCW 78.60.

[16] The proposed definition for bio-energy is "Includes a range of biomass feedstock and technologies for conversion of these materials into useful energy." *AR-76 (SCC 21.08.010).*

[17] "Facilities which are owned, operated, and maintained by public entities which provide a public service required by local governing bodies and state laws." *SCC 21.08.010 (70).*

[18] "Facilities intended for public use which may be owned and operated by a private entity." *SCC 21.08.010 (73).*

allowed in the residential zones with administrative review.[19] In addition, "public, semi-public and/or private facilities and/or utility systems" would be allowed outright in the residential zones. Although the proposed definitions for "public facilities and utility systems" and "semi-public facilities and utility systems" include "electrical transmission, distribution and generation facilities", the electrical generation facilities that fall under more restrictive definitions (such as wind turbines) would not be regulated as a "public, semi-public and/or private facilities and/or utility systems." Thus, a large-scale wind energy facility would *not* be allowed outright in a residential zone.[20] *AR-81, 82, 99, 100, 102, 103, 105, 106, 108, 109; Testimony of Ms. Witherspoon.*

15. Although alternative energy systems would be regulated under the Alternative Energy Systems section of the zoning code, it is not clear how certain traditional electricity generating facilities, such as coal-fired plants, would be regulated. The Planning Commission Recommended Draft does not contain use categories or specific standards for such facilities. If categorized as "public, semi-public and/or private facilities and/or utilities" they would be allowed outright in most zones. *See generally AR-76-84; Opening Brief of Save our Scenic Area, page 10.*

16. Under the Planning Commission Recommended Draft, large-scale wind energy facilities and bio-energy facilities (the most controversial uses) would not be allowed outright in any zone.[21] Instead, they would be conditional uses in the following zones:

- Industrial
- Forest Lands 20 (large-scale wind energy only)
- Commercial Resource Lands 40
- Carson Industrial Zone (large-scale wind energy only)
- West End Forest Lands 20 (large-scale wind energy only)
- West End Commercial Resource Lands 40
- Swift Forest Lands 20 (large-scale wind energy only)
- Swift Commercial Resource Lands 40

---

[19] Small-scale wind energy facilities would not be allowed within the High Density Residential Zone of the Carson subarea. *AR-139.*

[20] To avoid confusion, the Hearing Examiner urges the County to clarify this issue in the final version of the zoning code. Appellant SOSA made much of the fact that the language "electrical transmission, distribution and generation facilities" could be read as including wind-energy and other alternative energy facilities. However, the Hearing Examiner considers this to be a language problem (albeit a significant language problem) rather than an environmental review problem. It is clear that the County intends to regulate wind-energy and other alternative energy facilities in accordance with the stricter standards established for those facilities, and it is the Hearing Examiner's opinion that no reviewing official looking at the larger statutory scheme could reasonably interpret otherwise. Consequently, the Hearing Examiner will not evaluate the environmental impacts of the proposed zoning code on the false assumption that large-scale wind energy facilities would be allowed outright in the residential zones.

[21] Under the prior Board-Initiated Draft, large-scale wind energy facilities would have been administrative review uses in some zones, and allowed outright in others. *See e.g., AR-121, 128, and 148.*

*AR-122, 125, 128, 148, 161, 163, 179, 182.* None of the zones identified above would allow residential uses.

17. Although the 2007 Comprehensive Plan specifies that the Hearing Examiner "may deny a conditional use permit if he or she finds the use is inappropriate for the area" (2007 Comprehensive Plan, Policy LU.6.1, page 31), the proposed criteria for conditional use permit approval do not appear to give the Hearing Examiner discretion to deny a conditional use permit. Proposed SCC 21.16.070(A) states, "If the Hearing Examiner determines that the use is *not compatible* with permitted or existing uses in the specific area of the proposed use then the proposed use may be approved or approved with conditions to make it compatible with the area." *AR-88 (emphasis added).* The quoted language is a change from the current SCC 21.16.070, which states, "If the Hearing Examiner determines that the use is not compatible with permitted or existing uses in the specific area of the proposed use then the proposed use shall be denied." *SCC 21.16.070(A).*

18. The 2007 Comprehensive Plan does not contemplate the type of energy facilities described in the Planning Commission Recommended Draft. With respect to the Conservancy designation, which includes the majority of the County and which could be implemented by the Residential 10, Forest Lands 20, Commercial Resource Lands 40, and Natural zones (see 2007 Comprehensive Plan, Figure 2-2, and AR-97 to 98), the Comprehensive Plan lists only the following utility uses as being appropriate within the designation: "Public facilities and utilities, such as parks, public water access, libraries, schools, utility substations, and telecommunication facilities." *2007 Comprehensive Plan, page 26.*

19. Ms. Karen Witherspoon, Director of Community Development for Skamania County, was the Responsible Official for State Environmental Policy Act (SEPA) review of the code amendments. Ms. Witherspoon issued a Determination of Nonsignificance (DNS) for the Planning Commission Recommended Draft on October 8, 2008.[22] *AR 47-48.*

20. On October 7, 2008, the County mailed notice of the DNS to numerous agencies, tribes, and interested parties, including the Washington Department of Fish and Wildlife, the Washington Department of Natural Resources, the United States Forest Service, the Washington Department of Ecology, and the Columbia River Gorge Commission. *AR-64-68.* The County published the DNS in the Skamania County Pioneer on October 8, 2008. *AR-69-70.*

21. No agency submitted comments directly in response to the October 8, 2008 DNS. *Testimony of Ms. Witherspoon.* However, on June 5, 2008 the Washington Department of

[22] Ms. Witherspoon had issued a DNS for the Board-Initiated Draft also, and the DNS was appealed by some of the Appellants in this case. Ms. Witherspoon withdrew the DNS in response to the changes recommended by the Planning Commission. *See AR-50.*

Fish and Wildlife (WDFW) submitted a comment letter on the original Board-Initiated Draft that contained the following language:

> WDFW would like to re-iterate our calls for a cumulative effects analysis of regional wind power development in the Columbia River Gorge. Such an analysis is typically not possible or required during permitting and siting of an individual wind power development. The County zoning update process is the best opportunity we have to conduct this analysis of potential adverse environmental impacts from development of wind power sites, as well as associated power lines, roads, and other infrastructure. Such an analysis would evaluate the number, location, and type of turbines; the number and type of species in an area; species behavior; topography; and weather factors influencing direct and indirect mortality factors.

*Exhibit C.12.* No cumulative effects analysis has been conducted for the proposed zoning code amendments, although some of the specific language changes requested by WDFW (i.e., not allowing large-scale energy uses outright on commercial resource lands) have been incorporated into the Planning Commission Recommended Draft. *Exhibit C.12; AR-128.*

22. The County did not consider the June 5, 2008 WDFW letter in the environmental review of the Planning Commission Recommended Draft because of the timing of the submittal. In compiling its environmental review record the County made a distinction between those comments submitted in response to the October 8, 2008 DNS, the comments submitted in response to the DNS for the prior Board-Initiated Draft, and the comments submitted to the Planning Commission on the ordinance itself. Ms. Witherspoon testified that WDFW submitted a later letter (also not included in the environmental review record) that did not include a request for a cumulative effects analysis. *Testimony of Ms. Witherspoon.*

23. Save our Scenic Area filed an appeal of the DNS on October 22, 2008. *AR-30 through 40.* The appeal was timely under the 14-day deadline specified in the DNS. *AR-47 to 48.* The appeal alleged that the proposal (mainly, the portions relating to wind turbines) would have probable, significant, adverse impacts on the following:

- Birds and animals,
- Noise,
- Geology, soils, and topography,
- Fire and hazard,
- Relationship to existing land use plans,
- Land use and housing,
- Light and glare,
- Aesthetics and scenic resources,
- Special areas (i.e., Columbia Gorge National Scenic Area),

- Recreation,
- Transportation,
- Water Supply and Aquifers, and
- Human health.

In addition, Save our Scenic Area alleged that the County did not actually consider environmental factors prior to issuing the DNS, that the proposal would result in cumulative impacts, and that the proposal would set a precedent for further actions with significant environmental effects. Save our Scenic Area requested that the Hearing Examiner reverse the issuance of the DNS and order the County to prepare an Environmental Impact Statement (EIS). *AR-35 through 40.*

24. The organizations Friends of the Columbia Gorge, Gifford Pinchot Task Force, and Columbia Riverkeeper jointly filed an appeal of the Determination of Nonsignificance on October 22, 2008. *AR-3 through 24.* The appeal was timely under the 14-day deadline specified in the DNS. *AR-47 to 48.* The appeal alleged the following (paraphrased):

- An EIS must be prepared for non-project actions that may lead to significant adverse impacts.
- The County improperly relied on the Klickitat County FEIS.
- The County failed to consider cumulative impacts, and the precedent set by the proposal.
- The County failed to consult with other agencies.
- The County failed to consider impacts to special and sensitive areas, wildlife, rare plants, native plant communities, and water resources.
- The County failed to ensure consistency with the Comprehensive Plan, Critical Areas Ordinance, and federal wildlife laws.
- The County did not analyze the impacts of the Northwestern Lake Recreational zones, or the impacts of increased residential development.
- The County did not consider or adequately protect against impacts to cultural resources and recreation, noise impacts, fire risk, transportation impacts, and impacts associated with new energy transmission infrastructure.

*AR-6 through 23.*

25. The County stipulated to all Appellants' standing to challenge the DNS. There are declarations in the record from members and/or staff of Friends of the Columbia Gorge, Columbia Riverkeeper, and Gifford Pinchot Task Force, some of whom reside in Skamania County, that their interests would be adversely affected by the proposed zoning code amendments. According to the declarations, members of the Appellant organizations pursue recreational and wildlife viewing activities in or near the areas that would be affected by the zoning ordinance. *Argument of Mr. Banks; Exhibits F.4 through F.9.*

26. In response to the appeals, the County argued that the scope and impact of the zoning amendments is smaller than argued by the Appellants because most of Skamania County consists of public land, that the court decision *King County v. Boundary Review Board,* 122 Wn.2d 648 (1993) is not applicable, that the State of Washington has preempted local control over wind power projects, and that the proposed amendments would be an improvement over the existing regulatory scheme. *Response Brief of Skamania County.*

27. In the Environmental Checklist for the Planning Commission Recommended Draft, the County discloses, in general terms, the presence of mountainous terrain, water features, threatened and endangered species, bird migration routes, and unstable soils within the County, but claims that the proposal would have no impact on those and other elements of the environment because it is a non-project action. In the supplemental sheet for non-project actions, the County does not identify or analyze the impacts associated with the type of development that might result from the proposed amendments, but indicates that the impacts of future development would be determined and mitigated on a project-specific basis based on County regulations. *AR-50 to 62.*

28. Assistant Planner Heather Watson prepared the September 30, 2008 Environmental Checklist, in consultation with Ms. Witherspoon and other County staff. As background research, Ms. Watson reviewed the Planning Commission Recommended Draft of the zoning code amendments, a Final Environmental Impact Statement (FEIS) issued by Klickitat County for its Energy Overlay Zone (AR-71),[23] the August 2003 Wind Power Guidelines promulgated by the Washington Department of Fish and Wildlife (AR 351-359), and some SEPA checklists and threshold determinations issued by other jurisdictions for legislative actions. Although Ms. Watson was aware that the County had been approached regarding a possible wind energy development, she did not consider the project in preparing the Environmental Checklist because no application had been filed. *Testimony of Ms. Watson.*

29. Although both Ms. Witherspoon and Ms. Watson reviewed the Klickitat County FEIS prior to issuance of the DNS, neither provided testimony or other evidence identifying which specific portions of the FEIS or supporting studies were persuasive in making the determination. In addition, neither provided evidence suggesting that Skamania County and Klickitat County have similar environmental conditions. *See generally, Testimony of Ms. Witherspoon and Ms. Watson.* Although the checklist notes, "The Eastern portion of Skamania County that abuts Klickitat County was included in studies prepared for this [the Klickitat County] EIS" (*AR-50*), no specific references to the studies, or conclusions drawn from the studies, were provided.[24] In addition, the assumptions used by Klickitat

---

[23] Klickitat County is immediately east of Skamania County.

[24] By chance, the Hearing Examiner found a reference to eastern Skamania County in the Avian Study Report attached to the Klickitat County FEIS (AR-71, Appendix B). The study indicates that two avian sampling points were in southeast Skamania County, in the general vicinity of the panhandle that extends south of the Klickitat County line. The area represented by the sampling points is an extremely small fraction of Skamania County as a whole. *AR-71, Appendix B, Figure 1.*

County in evaluating the environmental impacts of the Energy Overlay Zone are not reflected in the proposed zoning text. For example, the Planning Commission Recommended Draft would allow a maximum wind turbine height of 500 feet, whereas the visual impact analysis conducted by Klickitat County was based on a height of 100 feet. *AR-205; AR-71, page 3-108.* The 500-foot height limit was not based on environmental factors; its purpose was to ensure that the type of turbines currently in existence would be conforming. *Testimony of Ms. Witherspoon.*

30. Prior to adoption of its Energy Overlay Zone, Klickitat County, like Skamania County, did not have ordinances that specifically addressed energy development. Energy facilities were reviewed on a case-by-case basis through the conditional use permit process, which, the FEIS notes, "has led to a lack of consistent policy for energy facility siting." *AR-71, page 1-3 to 1-4.* Klickitat County issued a Determination of Significance (DS) for the non-project action on June 6, 2002, and issued the FEIS in September of 2004. *Exhibit H.2; AR-71.*

31. In the FEIS, Klickitat County predicted that the Energy Overlay Zone might encourage greater energy development within the Overlay boundaries, and discourage energy development outside of the Overlay boundaries "because of the greater uncertainty in the permitting process". *AR-71, page 1-6.* The prediction turned out to be accurate. The development of wind power facilities in Klickitat County has far exceeded the projections contained in the FEIS. Whereas the FEIS assumed that four wind power projects (1,000 MW generating capacity total) would be developed in Klickitat County between 2004 and 2024, as of January 30, 2008 there were 12 wind power facilities in Klickitat County (1500+ MW) that were permitted and/or constructed or had permits pending.[25] These facilities are depicted on a Klickitat County Wind Projects Map. *Exhibit E.2.* During the past year, applications for two wind facilities in addition to those depicted on the map have been filed.[26] *Exhibits E.3, E.4, and E.5; AR-71, page 1-2.*

32. Skamania County is a member of the Mid-Columbia Economic Development District (MCEDD), and Skamania County Commissioner Paul Pearce serves on the MCEDD Board of Directors as the Chair of the Executive Committee. The counties that constitute MCEDD, in addition to Skamania County, include Klickitat County (WA), Sherman County (OR), Wasco County (OR), and Hood River County (OR). *Exhibit H.10, page 1; Exhibit H.13.*

33. The mission of MCEDD is "to promote the creation of family-wage jobs, the diversification of the economic base, and the growth, development and retention of business and industry within the five-county district." *Exhibit H.10, page 2.* One of

---

County line. The area represented by the sampling points is an extremely small fraction of Skamania County as a whole. *AR-71, Appendix B, Figure 1.*

[25] Although the map depicting the wind power facilities is dated January 30, 2008, it includes some projects that did not receive SEPA threshold determinations until April of 2008. *Exhibit E.2, Exhibit 6.3, Exhibit 6.4.*

[26] It should be noted that one of those projects – the Goodnoe II Project – included approximately 320 acres of land owned by the Washington Department of Natural Resources. *Exhibit E.5.*

MCEDD's projects has been to establish the Columbia Gorge Bi-State Renewable Energy Zone (CGBREZ). "This self-declared zone was created to reduce the region's dependency on federal subsidies, bring economic vitality to the region, establish a national model for energy self-sufficiency, and provide a model of self-reliance for other rural economies in the 21st Century. *Exhibit H.10, page 9; see also Exhibit D.6.*

34. Skamania County has demonstrated its support of the CGBREZ, and its interest in wind power in particular, in several ways. On December 18, 2007, the Skamania County Board of Commissioners passed Resolution 2007-59, which "endorses the creation of the Columbia Gorge Bi-State Renewable Energy Zone." *Exhibit H.9.* In the preamble to the resolution, the Commissioners identify the counties within the zone as possessing "world class renewable energy assets including wind, sun, biomass, water and geothermal" and as desiring to develop renewable energy projects. *Exhibit H.9.* On September 30, 2008, the Skamania County Board of Commissioners passed Resolution 2008-51, which endorses several policies and actions relating to the CGBREZ, such as streamlining government permitting, encouraging investment in new energy technologies, and expanding regional transmission capacity for renewable energy projects. *Exhibit H.12; Exhibit H.11.* On December 23, 2008, the Board "discussed the need for the County to pay for Skamania County Economic Development Director to attend an upcoming conference of the American Wind Energy Association". *Exhibit H.14.*

35. Skamania County contains areas that have been mapped by the U.S. Department of Energy National Renewable Energy Laboratory as Wind Power Class 4 ("good") or better. The wind power classifications range from Class 1 to Class 7, with Class 1 referring to "poor" resource potential (wind speeds not exceeding 12.5 miles per hour at 50 meters), and Class 7 referring to "superb" resource potential (wind speeds of 19.7 miles per hour or greater). *Exhibits D.1 and D.2.*

36. To facilitate potential wind energy projects, there are existing high-voltage Bonneville Power Administration electric transmission lines in the southern portion of Skamania County and on the west side of Swift Reservoir. *Exhibits H.1, D.1, and D.2.*

37. Skamania County has not yet received an application to develop a large-scale wind energy facility. However, SDS Lumber has approached Skamania County on multiple occasions over the past several years to discuss a possible large-scale wind energy project (Saddleback Project) on its property within the County. Ms. Witherspoon met with representatives of SDS and entities such as the Bonneville Power Administration on two or three occasions for "pre-application meetings" to discuss the permitting requirements for the project. Multiple pre-application meetings have been held because of changes in the development team. The project, if developed, would consist of at least 40 wind turbines. Although the last formal pre-application meeting was approximately two years ago, individuals associated with the project have been involved in the County's code update process and the president of SDS was present at the subject appeal hearing. *Testimony of Ms. Witherspoon.*

38. The Bonneville Power Administration (BPA) has produced a map entitled "Current and Proposed Wind Project Interconnections to BPA Transmission Facilities" (Exhibit D.4). This map depicts the SDS Saddleback project as a proposed wind generation facility of 70 megawatts (MW). The project location is in the southeast corner of Skamania County. *Exhibit D.4.*

39. Although no party was able to identify any specific wind power projects located or proposed on National Forest land, United States Forest Service regulations do not preclude the development of wind energy facilities. Wind energy uses are governed by the Forest Service's special use regulations set forth in 36 CFR 251, subpart B. Applications for wind energy facilities are processed in accordance with 36 CFR 251.54, Forest Service Manual 2726 ("Energy Generation and Transmission"), and Forest Service Handbook 2709.11 ("Special Use Administration"). In September of 2007, the Forest Service proposed amendments to the manual and handbook to specifically address wind energy uses. *72 Federal Register 184; Exhibit D-9, page 4-29; see also Testimony of Mr. Apostol.*

40. Although under SEPA each project is reviewed on an individual basis, there appears to be a general consensus among reviewing officials that large-scale wind energy facilities generate the type of impacts that are appropriately reviewed through an environmental impact statement. *Exhibits E.3, E.5, 6.1, 6.2, 6.3, and 6.4; Testimony of Ms. Witherspoon.* A typical large-scale wind energy facility includes numerous turbines that are arranged in "strings", electrical collector and/or transmission lines connecting the turbines to each other and to the electrical grid, access roads to each of the turbines, electrical substations, and support structures. The following examples of wind energy proposals in the region illustrate the scale of development associated with large-scale wind energy facilities:

Lakeview Light & Power Project (Harvest Wind) in Klickitat County (as described in DS issued April 25, 2008):

- 55 turbines with a maximum height of 410 feet each
- New 3.1-mile long electrical transmission line
- New substation occupying two acres
- An operations building
- Approximately 20 miles of new access roads
- 98.6 acres of land impacted (46.6 acres of temporary construction impact and 52 acres of long-term impact)

*Exhibit 6.3.*

Pacific Wind Development Project (Juniper Canyon) in Klickitat County (as described in DS issued April 11, 2008):

- 167 turbines with a maximum height of 492 feet each
- Two new substations occupying a total of 15 acres
- Unpaved access roads connecting the turbines and other facilities

*Exhibit 6.4.*

Windy Point Partners, LLC Project (Windy Point II) in Klickitat County (as described in DS issued July 9, 2008):

- 61 turbines
- Possible new substation
- Approximately 17 miles of new access roads
- 76 acres of land permanently disturbed

*Exhibit 6.1.*

Northwest Wind Partners, LLC Project (Goodnoe II) in Klickitat County on private and DNR land (as described in DS issued July 11, 2008):

- 17 turbines (added to an existing facility)
- Electrical transmission lines
- 15 acres of land permanently disturbed

*Exhibit 6.2.*

Stateline Wind Project in Walla Walla County, Washington and Umatilla County, Oregon (as described in Federal Register, June 5, 2000):

- 250 to 450 245-foot-tall turbines, arranged in several strings and spaced 200 to 300 feet apart
- New substation occupying one to two acres
- Eight to ten miles of new overhead transmission lines
- New access roads
- Operations building
- Water tank

*Exhibit 5.4.*

41. The National Academy of Sciences prepared a report, Environmental Impacts of Wind-Energy Projects, which "provides analyses to help to understand and evaluate the positive and negative environmental effects of wind-energy facilities." *Exhibit 4.4, Executive Summary, page 1.* The study addresses both the ecological and the human impacts of wind energy. *Exhibit 4.4, Chapters 3 and 4.* The study also includes recommendations for improving wind-energy planning and regulation. *Exhibit 4.4, Chapter 5, page 181.* With respect to planning, the recommendations of the National Academy of Sciences include the following:

- Standardized studies should be conducted before siting and construction and after construction of wind-energy facilities to evaluate the potential and realized ecological impacts of wind development. Pre-siting studies should evaluate the potential for impacts to occur and the possible cumulative impacts in the context of other sites being developed or proposed. *Exhibit 4.4, Executive Summary, page 9.*

- Regulatory reviews of individual wind-energy projects should be preceded by coordinated, anticipatory planning whenever possible.... This planning could be

implemented at scales ranging from state and regional levels to local levels. *Exhibit 4.4, Executive Summary, pages 12-13.*

*Visual impacts*

42. Skamania County contains unique and exceptional scenic resources, including the National Scenic Area in the southern portion of the County, Mt. St. Helens National Monument in the northwest corner of the County, and the base of Mt. Adams near the northeast corner of the County. Photographs depicting some of Skamania County's scenic resources are provided in Exhibit B.5 and Exhibit B.1 (see page 1-6). *2007 Comprehensive Plan, pages 13 and 35; Exhibits H.3, B.5 and B.1.*

43. The Swift Subarea is one of the areas that, under the Planning Commission Recommended Draft, could be developed with large-scale wind energy facilities. The Swift Subarea Plan describes the area as "mountainous with sweeping vistas", and as being one of the gateways into the Mt. St. Helens National Volcanic Monument, "which is a popular recreation and sightseeing location bringing thousands of tourists through the Swift Subarea every year." *Swift Subarea Plan, pages 7 and 9.*

44. Based on U.S. Department of Energy National Renewable Energy Laboratory mapping, Skamania County's best wind resources are found on ridgelines that lie transect to the Columbia River Gorge. The ridges may be visible from key viewpoints. Some are near the National Scenic Area boundary. *Exhibits D.1 and D.2; Exhibit B.5; Testimony of Mr. Apostol.*

45. Wind turbines of the maximum height permitted under the Planning Commission Recommended Draft (500 feet) have the potential to dramatically alter the landscape. To put the massive scale in perspective, the tallest building in Portland is 546 feet tall. Even a turbine that is only 300 feet tall could have a blade sweep diameter comparable to the length of a Boeing 747 Jumbo Jet. *Exhibit B.5; Testimony of Mr. Apostol.*

46. The visual impact associated with wind turbines is based not only on the scale of the structures, but on the amount of land that must be cleared to accommodate them. In a forested area, the clearing required for a string of turbines can be substantial (in the example provided in Exhibit B.5, four acres per turbine). With respect to aesthetic impacts, complex, ecologically fragile, and scenic landscapes are the poorest locations for large wind turbines, and open, level, simple landscapes (such as might be found in established agricultural areas) are the best locations for large wind turbines. *Exhibit B.5; Exhibit B.4; Testimony of Mr. Apostol.*

47. Landscape aesthetics have measurable, objective standards. It is possible to map aesthetically sensitive areas and use such information when making zoning decisions. Mr. Dean Apostol, the Appellants' landscape architect, recommended mapping as one means for the County to minimize aesthetic impacts. He also recommended that the County adopt aesthetic standards. *Testimony of Mr. Apostol; Exhibit B.5.*

48. The National Forest Service (NFS) has developed a Scenery Management System for the inventory and analysis of the aesthetic values of national forests. The Scenery Management System is described in an NFS publication entitled "Landscape Aesthetics – A Handbook for Scenery Management" (Exhibit B.1). The Handbook provides a multi-step process for mapping scenic resources. The concepts and processes contained in the Handbook are not limited to national forests; some jurisdictions use the Handbook to evaluate scenic impacts. *Exhibit B.1; Testimony of Mr. Apostol.*

49. The American Wind Energy Association (AWEA) has prepared a Wind Energy Siting Handbook that provides information regarding the regulatory and environmental issues associated with the development of wind energy facilities. In its handbook, the AWEA notes that government agencies with approval authority over wind farms often require a formal assessment of the visual compatibility of a wind farm, such as the extent to which the wind farm adversely affects the aesthetics of vistas known to be important to the community. According to the AWEA, a visual impact assessment should include a characterization of baseline conditions, photo simulations, and specific investigation of the potential visual impacts based on identified changes from the baseline condition. *Exhibit D.9, pages 5-28 to 5-31; see also Exhibit B.4.*

50. The use of aesthetic criteria to control land uses is not new to Skamania County; the Columbia Gorge National Scenic Area Ordinance (Title 22 of the Skamania County Code) contains aesthetic criteria. All development applications for the National Scenic Area must include "a list of all key viewing areas from which the proposal would be visible." *SCC 22.06.060(A)(1)(e).* The key viewing areas, which are defined by ordinance, include Cook-Underwood Road, I-84, the Columbia River, the Pacific Crest Trail, and numerous other locations. *SCC 22.04.010(91).* Those developments visible from key viewing areas must comply with certain standards, including that the development must be "visually subordinate"[27] to its setting as seen from the viewing areas. *SCC 22.18.030; see also Exhibit B.4.*

51. With respect to large-scale wind energy facilities, the Planning Commission Recommended Draft does not contain standards or criteria relating to aesthetic impacts, nor does it require a visibility analysis as an application requirement. *AR- 205 to 212.*

52. Based on Geographic Information System (GIS) mapping prepared by a consultant with significant prior experience with the National Scenic Area (see Exhibit B.2), 415-foot-tall wind turbines in the southeast portion of Skamania County, but outside of the National Scenic Area, would be visible to a six-foot-tall observer from Cook-Underwood Road within the National Scenic Area and from Interstate 84 (I-84) on the Oregon side of the Gorge.[28] With respect to the western portion of the study area, the visibility would be

[27] "Visually subordinate means a description of the relative visibility of a structure or use where that structure or use does not noticeably contrast with the surrounding landscape, as viewed from a specified vantage point, generally a key viewing area. As opposed to structures that are fully screened, structures that are visually subordinate may be partially visible. They are not visually dominant in relation to their surroundings...." *SCC 22.04.010(181).*
[28] Within the study area, I-84 passes through the Hood River Urban Area. *Exhibit B.3.*

greatest significant from Cook-Underwood Road (i.e., only in the northernmost portion of the study area would turbines not be visible), but not as significant from I-84 (i.e., only in the southernmost portion of the study area, adjacent to the NSA boundary, would turbines be visible). With respect to the eastern portion of the study area, which generally corresponds to the panhandle lying south of Klickitat County, turbines would be visible from I-84 at nearly all locations, and would be visible from Cook-Underwood Road at locations near the NSA boundary. *Exhibit B.3.*

53. A viewshed analysis was prepared specifically for the Saddleback project, which, if developed, would be located in the southeast portion of Skamania County. According to the submitted site plan, 44 wind turbines would be located along some north-south ridgelines located immediately north of the Scenic Area boundary.[29] The turbines would be visible for several miles, and would be particularly visible from areas to the west and north of the project and from the south side of the Columbia River Gorge (I-84 and environs). Views from Cook-Underwood Road would also be affected. *Exhibits 2.2a, 2.2b, and 2.2c.*

*Wildlife Impacts*

54. Wind turbines typically kill at least some birds and bats. Bird fatalities are generally caused by collision with the turbines or associated infrastructure. Bat fatalities can be caused by collision or by "barotrauma" from air pressure changes near the turbines.[30] The extent of the impact depends on factors such as the type of species present and how they use the landscape, the type of habitat that is provided (forested areas are more sensitive), and design features such as the height of the turbines. *Testimony of Mr. Smallwood; Exhibit C.14; see generally, Exhibit 4.4, Chapter 3.*

55. Klickitat County had an Avian Study Report (WEST, 2003) prepared as part of its FEIS. The purpose of this study was to "provide data on avian use of potential wind power development areas in Klickitat County." *AR-71, Appendix B, page 1.* In addition to data on avian use, the study included predictions of the number of collisions per turbine by avian group for each of six study regions. *AR-71, Appendix B, page 3.* Two of the avian sampling points were in southeast Skamania County, in the general vicinity of the panhandle that extends south of the Klickitat County line. *AR-71, Appendix B, Figure 1.* However, the study did not include collision predictions with respect to the Skamania County sites. *AR-71, Appendix B, page 3 and Figure 1.*

56. Overall, the WEST study predicted relatively low avian fatality rates throughout Klickitat County, with the highest rate of raptor fatalities west of U.S. 97 and within 1.5 miles of the Columbia River (0.058 per year per turbine), the lowest rate of raptor fatalities east of

---

[29] It should be noted that because no formal application has been submitted to the County, the site plan submitted by the Appellants might not represent the layout ultimately reviewed.

[30] Pulmonary barotrauma is lung damage due to the expansion of air in the lungs that is not accommodated by exhalation. In a study of bat fatalities from a wind energy facility in Alberta, Canada, more than 90 percent of the bats exhibited internal hemorrhaging and pulmonary lesions consistent with barotrauma, and approximately half showed no sign of external injury such as would be caused by direct collision. *Exhibit C.14.*

Rock Creek and greater than 1.5 miles from the Columbia River. The prediction for passerines was the same for all study areas, at 1.6 fatalities per year per turbine. The prediction for all birds combined was similar for the study areas, with annual fatalities per turbine ranging from 1.624 east of Rock Creek and more than 1.5 miles from the Columbia River and 1.725 east of Rock Creek and less than 1.5 miles from the Columbia River. *AR-71, Appendix B, Table 32.*

57. The Appellant's wildlife expert, Dr. Kenneth Smallwood, is uniquely qualified to testify on the issue of the effects of wind turbines and other types of infrastructure on wildlife. He has a Ph.D in ecology, and has served as a consultant to the California Energy Commission, conducting research on bird behavior in the Altamont Pass Wind Resources Area. He has published 56 peer-reviewed articles, including three specifically relating to Altamont Pass. *Exhibit G.4.* Mr. Smallwood submitted that the Klickitat County FEIS underestimates the potential impact of wind turbines on birds. Mr. Smallwood reviewed the avian and bat fatality rates of the Big Horn Wind Energy Project, a 133-turbine facility that was recently constructed in Klickitat County. During the environmental review process, the developer of the Big Horn facility predicted low fatality rates for birds and bats, based in part on the results of the Klickitat County FEIS.[31] The project was then constructed and avian and bat mortality was monitored for a year. Mr. Smallwood evaluated the monitoring results, and developed estimates of actual bird and bat mortality. With respect to raptors, he found that the number of deaths was 12 to 16 times higher than the number predicted in the preliminary studies. With respect to bats, he found that the number of deaths was more than two times higher than originally predicted. *Exhibits C.19 and C.22.*

58. Although the WEST study underestimated the avian mortality associated wind power facilities, it provided some general conclusions that are relevant to the appeals:

- Avian mortality would be reduced by siting turbines where lowest avian use occurs
- Avian mortality would be reduced by siting turbines away from riparian areas
- Avian mortality would be reduced by siting turbines in agricultural areas rather than in native landscapes
- Impacts to raptors would be reduced by avoiding siting turbines at the crests and edges of hilltops, where raptors use the uplift created by the cliff face. "A requirement to consider avoiding wind turbine placement within 50 meters of hilltop rim edges is recommended to be included in the Energy Overlay Comprehensive Plan."

*AR-71, page 3-64.*

[31] The estimates associated with the Big Horn facility correlate fairly closely with the estimates contained in the Klickitat County FEIS. In the Avian Study Report, WEST estimated that the number of raptor deaths per turbine per year would range from 0.022 to 0.058 depending on geographic location. The preliminary Big Horn studies estimated that the number of raptors killed per year by the entire project would be three to four, or 0.022 to 0.03 raptors per turbine. *AR-71, Appendix B, Table 32; Exhibit C-19.*

59. Skamania County is predominately forested. Forested areas support more special-status species that would be vulnerable to turbine collision. *Exhibit C.21, page 15; Testimony of Mr. Smallwood.*

60. Skamania County's planning documents acknowledge that at least portions of the County provide habitat for protected species. For example, according to the Swift Subarea Plan, the Swift area may contain or provide habitat for the following bird and bat species that are federally listed as Endangered, Threatened, or Species of Concern: Bald Eagle, Northern Spotted Owl, Pacific Townsend's Big-Eared Bat, and Peregrine Falcon. *Swift Subarea Plan, page 8.* No evidence was presented that the County considered the presence of protected species when determining which zones should allow large-scale wind energy development.

61. Turbine collision is not the only impact to wildlife associated with large-scale wind energy facilities. The infrastructure associated with wind turbine development (roads, transmission lines) has potential to adversely affect wildlife by fragmenting habitat. *Exhibit 4.4, Chapter 3, pages 105-108.* The Planning Commission Recommended Draft and proposed zoning map do not restrict energy uses to areas where infrastructure is available or could be developed with minimal environmental impact. Although energy uses such as large-scale wind energy facilities would be conditionally allowed in substantial portions of the County, the existing road and electricity infrastructure is extremely limited or nonexistent in some areas. *Exhibit H.4; County Exhibit 2.*

62. Pine Creek, located within the Swift Subarea, provides spawning grounds for bull trout, a federally listed species. The U.S. Fish and Wildlife Service considers the Pine Creek bull trout population to be "especially important in achieving recovery for this species." *Exhibit C.17; Swift Subarea Plan, page 8.* Pine Creek is "especially vulnerable to land management activities on account of its steep slopes and highly erosive volcanic soils." *Exhibit C.17, page 2; see also Exhibit C.16.*

63. There are map-based tools that can be used on a countywide level to determine where energy facilities and other development would minimize impacts to wildlife. For example, Mr. Smallwood has developed an indicators approach for assessing the impacts of wind power development on bird species at any location in California. *Exhibit C-21, pages 4-5.*

64. The Planning Commission Recommended Draft contains measures to protect wildlife from impacts associated with large-scale wind energy development. These include the following (paraphrased):

- Take "reasonable efforts" to preserve existing trees, vegetation, and water resources
- Flag construction limits
- Design wind energy structures to discourage bird nesting, by using tubular rather than lattice supports, avoiding use of external ladders and platforms, avoiding use of guy wires, and using bird deterrent devices on guy wires

- Control weeds to avoid creating raptor habitat
- Use anti-perching devices on transmission lines
- Set back turbines at least 2,500 feet from known nesting sites of state and/or federally threatened or endangered raptor species and at least 1,500 feet from wetlands identified on the National Wetlands Inventory maps
- Monitor raptor nest activity prior to commencing construction
- Survey avian use of the site prior to finalizing site design
- Remove animal carcasses to avoid attracting foragers
- Should consult with WDFW before making final siting decisions
- Restore temporarily disturbed areas

*AR-209 to 210.* The measures do not include minimum setbacks from ridgelines.[32]

65. Although all development within the County would be subject to the critical areas code, the County did not present any evidence that it evaluated the presence of critical areas prior to establishing zoning districts or allowed uses within the zones. *Testimony of Ms. Witherspoon.*

66. The 2007 Comprehensive Plan contains policies that support protecting wildlife on a planning level rather than on a project-specific basis. These include the following:

> Policy E.4.2: Develop strategies for preserving, protecting or restoring important habitats and corridors, particularly if they are at risk of significant degradation. Some strategies may include … promoting land use plans and development that avoid impacts on habitat….
>
> Policy E.4.4: Coordinate with other jurisdictions and agencies to protect environmentally critical habitats, particularly ecosystems and watersheds that span jurisdictional boundaries.

*2007 Comprehensive Plan, page 46.*

*Air quality*

67. According to the Klickitat County FEIS, biomass involves combustion of an organic fuel (such as wood), and consequently the emissions from such facilities include nitrogen oxides, carbon monoxide, particulate matter, sulfur dioxide, greenhouse gases, and toxic air pollutants (i.e., toluene, formaldehyde, etc.). *AR-71, page 3-9.* The FEIS notes that both biomass and natural gas-fired plants could affect visibility within the National Scenic Area, even though the Scenic Area is not within the overlay, and recommends the use of state-of-the-art air pollution technologies to mitigate impacts. *AR-71, page 1-7.*

[32] The County Critical Areas Ordinance would also not require a minimum setback from the edge of a bluff or mountain ridge. Development on slopes steep enough to be classified as a Landslide Hazard Area requires preparation of a geotechnical report. No minimum setback is specified. *SCC 21A.06.020.*

68. The United States Forest Service (USFS) monitors air quality within the Scenic Area, as well as within national forests in the Pacific Northwest region, through chemical analysis of lichen tissue. Based on study conducted between 1993 and 2001, the USFS found that mean concentrations of sulfur, nitrogen, lead, cadmium, copper, and zinc within the Scenic Area were significantly higher than means within the national forests, and were comparable to levels found within urban areas. *Exhibit A.3.* Cultural resources such as rock art might be adversely affected by the air pollution. *Exhibits A.1 and A.5.* Other ecological effects associated with nitrogen deposition are described in Exhibit A.4. *Exhibit A.4.*

69. The visibility within the Columbia Gorge National Scenic Area is poor compared to the conditions within many national parks and scenic areas in the western U.S., and is comparable to conditions within locations in California and in northwest Washington. *Exhibit A.1, pages 3 and 4.*

70. The Planning Commission Recommended Draft includes the following air quality/pollution control standard relating to bio-energy facilities: "All applicable air emission permits shall be obtained and all conditions complied with." *AR-214.*

*Noise/Health*

71. The Planning Commission Recommended Draft contains the following standards with respect to the noise generated by large-scale wind energy facilities:

    i. The owner/operator shall operate the project in compliance with applicable Washington State Environmental Noise Levels, Chapter 173-60 WAC.
    ii. Applicants shall provide documentation of expected noise generation levels.

    *AR-207.* The Washington noise standards are based on the land use classification of both the noise source and the noise receiver. When the receiver is a residential property, the daytime noise limit ranges from 55 to 60 dBA[33] depending on the classification of the noise source. At night, the maximum ranges from 45 to 50 dBA. *WAC 173-60-040.*

72. Mr. Richard James, an acoustical engineer, provided credible testimony that wind turbines generate a type of noise that is not adequately measured by the dBA scale used in the Washington noise standards. The dBA scale is designed to detect noises audible to humans. Wind turbines generate low-frequency noise (20 Hz or lower) that might cause the body to resonate even if it is not audible. Such effects are measurable on the C-weighted scale (dBC). *Testimony of Mr. James.*

73. Wind turbines have unique sound characteristics due to the interaction of the blades with the air around the towers. As described in one of the articles submitted by the Appellants:

[33] "dBA" means the sound pressure level in decibels measured using the "A" weighting network on a sound level meter." *WAC 173-60-020.*

"The interaction of the blades with air turbulences around the towers create low frequency and infrasound components, which modulate the broadband noise[34] and create fluctuations of sound level. The low frequency fluctuations of the noise is described as 'swishing' or 'whooshing' sound, creating an additional disturbance due to the periodic and rhythmic characteristic." *Exhibit 1.12, page 11.* Mountainous conditions can exacerbate the noise effects of wind turbines. *Testimony of Mr. James.*

74. Mr. James recommended a minimum distance of 1.2 miles between turbines and residences, based on health effects research conducted by Dr. Nina Pierpont. *Testimony of Mr. James.*

75. Dr. Pierpont, a pediatrician, interviewed by telephone 23 members of ten families, and through those interviews obtained information on a total of 37 people (she obtained information on young children from their parents). The ten families were not from the same town or situated around the same wind farm; some families lived in Canada and others lived in various Western European countries. Only one family lived in the United States. The families lived distances ranging from 0.19 mile to 0.93 mile from minimum 328-foot-tall, modern (i.e., constructed 2004 or later) wind turbines. Six of the ten families lived less than one-half mile from the turbines. Based on the interviews, Dr. Pierpont found that most study members experienced sleep disturbance, and at least half experienced a variety of other systems such as headaches, dizziness, and memory problems, which symptoms improved when the member was away from the turbines.[35] Dr. Pierpont calls the constellation of symptoms "Wind Turbine Syndrome." Her theory is that the low-frequency noise or vibration associated with wind turbines stimulates receptors for the balance system in a discordant fashion. Dr. Pierpont recommends that wind turbines be set back a distance of at least 1.2 miles from residences.[36] *Exhibit 8.3 (see in particular, pages 8, 12, 20, 22, 23, 26, 60, and 61).*

76. Dr. Pierpont's research has several limitations. The study was based on an extremely small number of families, and the only families that were included in the study were those in which a member reported severe effects and the family considered the problem to be serious enough to take action to reduce turbine exposure (such as moving to a new location). Dr. Pierpont did not physically examine any of the participants; the information obtained was based on medical histories taken by telephone. *Exhibit 8.3, page 18; Testimony of Dr. Pierpont.* The study was not epidemiological in nature; it does not show how prevalent any of the symptoms were within the larger community. Individuals outside of the selected families who lived near turbines but did not experience symptoms were not interviewed. *Testimony of Dr. Pierpont; Exhibit 8.3, page 51.* Wind Turbine

---

[34] "Broadband noise is characterized by a continuous distribution of sound pressure with frequencies greater than 100 Hz." *Exhibit 1.12, page 4.*

[35] Mr. Banks objected to the hearsay nature of Dr. Pierpont's testimony on this issue.

[36] All of Dr. Pierpont's subjects lived less than a mile from wind turbines. The recommendation of 1.2 miles is based on surveys conducted by Robyn Phipps of New Zealand. *Exhibit 8.3, page 8.* Robyn Phipps is not a medical doctor. *Exhibit 8.1, page 2.*

Syndrome (or the same group of symptoms) is not described in any medical journal or other professional literature.[37] *Exhibit 8.3, page 15; Testimony of Dr. Pierpont.*

77. The National Academy of Sciences does not consider noise produced by wind turbines to be a "major concern" for people living more than a half-mile from the turbines. *Exhibit 4.4, Chapter 4, page 159.* However, it notes that "industry standards ... for assessing and documenting noise levels emitted may not be adequate for nighttime conditions and projects in mountainous terrain. This work on understanding the effect of atmospheric stability conditions and on site-specific terrain conditions and their effects on noise needs to be accounted for in noise standards. In addition, studies on human sensitivity to very low frequencies are recommended." *Exhibit 4.4, Chapter 4, page 176.*

*Shadow Flicker*

78. Shadow flicker is the phenomenon in which the blades of a wind turbine, as they rotate in sunny conditions, "cast moving shadows on the ground resulting in alternating changes in light intensity." *Exhibit 4.4, Chapter 4, page 160.*

79. According to one article, for individuals with photosensitive epilepsy (one in 4,000 people), "flicker from turbines that interrupt or reflect sunlight at frequencies greater than 3 Hz poses a substantial risk of inducing photosensitive seizures." *Exhibit 2.1, page 4.* However, modern large wind turbines do not generate shadow flicker at frequencies greater than 3 Hz. *Exhibit 4.4, Chapter 4, page 161 ("Flicker frequency due to a turbine is on the order of the rotor frequency (i.e., 0.6 – 1.0 Hz)"); see also Exhibit 2.1, page 4.*

80. Although shadow flicker might still be considered annoying even if not an actual health hazard, shadow flicker only occurs during a limited portion of the day, and only during certain conditions. As described in the National Academy of Sciences publication on wind-energy projects, "Even in the worst situations, shadow flicker only lasts for a short time each day – rarely more than half an hour. Moreover, flicker is observed only for a few weeks in the winter season." *Exhibit 4.4, Chapter 4, page 161.*

81. Shadow Flicker can be easily modeled on a project-specific basis, and shadow flicker modeling was performed for the Wild Horse Wind Power Project in Kittitas County. *Exhibit 4.4, Chapter 4, page 161.* As described in the FEIS for the project, the shadow flicker frequency for each turbine would be less than one-fifth the frequency reported to trigger seizures, and the project would not have a shadow flicker impact on residences due to distance and intervening terrain. *Exhibit 5.2, page 3.15-1.* With respect to an off-site alternative location with potential shadow flicker impacts (potential exposure ranging from six minutes to two hours), micro-siting of some of the turbines was identified as a potential mitigation measure. *Exhibit 5.2, page 3.15-2.*

---

[37] "Other than articles on the internet, there is currently no published research on wind turbine associated symptoms." *Exhibit 8.3, page 15.*

## CONCLUSIONS

Jurisdiction:
The Hearing Examiner is granted authority to conduct hearings and make decisions on appeals of State Environmental Policy Act (SEPA) threshold determinations pursuant to Skamania County Code (SCC) 2.80.060(A)(13).

Standards for Review of a SEPA Threshold Determination:
SEPA requires an Environmental Impact Statement (EIS) to be prepared "on proposals for legislation and other major actions having a probable significant, adverse environmental impact." RCW 43.21C.031.

- "Significant" as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental policy. Significance involves context and intensity and does not lend itself to a formula or a quantifiable test. *WAC 197-11-794.* Several marginal impacts when considered together may result in a significant adverse impact. *WAC 197-11-330(3)(c).*

- "Probable" as used in SEPA means likely or reasonably likely to occur. Probable is used to distinguish likely impacts from those that merely have a possibility of occurring, but are remote or speculative. *WAC 197-111-782.*

In *King County v. Boundary Review Board*, 122 Wn.2d 648 (1993), the Washington Supreme Court clarified that the term "probable" does not mean that an impact must be "inevitable" before an EIS may be required. In that case, the City of Black Diamond had issued a DNS for a proposed annexation of unincorporated King County land. The land was "largely uninhabited" (*Id.* at 656), and while some of the owners identified preferred future land uses, none presented a formal development proposal to the City. In response to argument that any future development of the property is too speculative to warrant full environmental review, the Court held, "a proposed action is not insulated from full environmental review simply because there are no existing specific proposals to develop the land in question or because there are no immediate land use changes which will flow from the proposed action. Instead, an EIS should be prepared where the responsible agency determines that significant adverse environmental impacts are probable following the government action." *Id.* at 664. The Court explained its reasoning as follows:

> One of SEPA's purposes is to provide consideration of environmental factors at the earliest possible stage to allow decisions to be based on complete disclosure of environmental consequences. Decision-making based on complete disclosure would be thwarted if full environmental review could be evaded simply because no land-use changes would occur as a direct result of a proposed government action. Even a boundary change, like the one in this case, may begin a process of government action which can "snowball" and acquire virtually unstoppable administrative inertia.

*Id.*

In determining an impact's significance, the responsible official must take into account that:

(a). The same proposal may have a significant adverse impact in one location but not in another location;
(b). The absolute quantitative effects of a proposal are also important, and may result in a significant adverse impact regardless of the nature of the existing environment;
(c). Several marginal impacts when considered together may result in a significant adverse impact; For some proposals, it may be impossible to forecast the environmental impacts with precision, often because some variables cannot be predicted or values cannot be quantified.
(d). A proposal may to a significant degree:

i. Adversely affect environmentally sensitive or special areas, such as loss or destruction of historic, scientific, and cultural resources, parks, prime farmlands, wetlands, wild and scenic rivers, or wilderness;
ii. Adversely affect endangered or threatened species or their habitat;
iii. Conflict with local, state, or federal laws or requirements for the protection of the environment; and
iv. Establish a precedent for future actions with significant effects, involves unique and unknown risks to the environment, or may affect public health or safety.

*WAC 197-11-330(3).*

A threshold determination "shall not balance whether the beneficial aspects of a proposal outweigh its adverse impacts, but rather, shall consider whether a proposal has any probable significant adverse environmental impacts." *WAC 197-11-330(5).* Thus, in *King County v. Boundary Review Board*, the Court rejected the argument that an EIS need not be prepared for the annexation proposal because development could also take place under county jurisdiction, stating, "The specter of adverse environmental effects in the absence of government action … is itself not a justification for evading full environmental review." *King County v. Boundary Review Board*, 122 Wn.2d at 666. Even proposals designed to improve the environment might have significant adverse environmental impacts. *WAC 197-11-330(5).*

The lead agency must make its threshold determination "based upon information reasonably sufficient to evaluate the environmental impact of a proposal." *WAC 197-11-335.*

If a DNS is issued, the agency has the burden of demonstrating "that environmental factors were considered in a manner sufficient to be a prima facie compliance with the procedural dictates of SEPA." *Lassila v. City of Wenatchee,* 89 Wn.2d 804, 814 (1978). To uphold the DNS, the reviewing body "must be presented with a record sufficient to demonstrate that ACTUAL consideration was given to the environmental impact of the proposed action or recommendation." *Id. (emphasis in original).*

Clear error is the standard of review applicable to substantive decisions under SEPA.

*Cougar Mt. Assocs. v. King County*, 111 Wn.2d 742, 747, 765 P.2d 264 (1988). The determination by the governmental agency is clearly erroneous only if the reviewing tribunal is left with "the definite and firm conviction that a mistake has been committed." *Id.* at 747 (quoting *Polygon Corp. v. Seattle*, 90 Wn.2d 59, 69, 578 P.2d 1309 (1978)). In deciding this appeal, the Hearing Examiner must accord the County's SEPA determination "substantial weight." *RCW 43.21C.090.* The burden of proof is on the Appellants to show that the threshold determination was clearly erroneous.

Conclusions Based on Findings:

1. The County has not demonstrated that it has considered environmental factors to the extent required by SEPA. Most significantly, the County did not consider County-specific environmental studies prior to developing the zoning text and map amendments and did not consider the types of development that might result from the amendments. The County was not able to articulate a strong rationale for some the proposed alternative energy development standards, even though such standards have the potential to create environmental impacts. *Findings 12, 27, 28, 29, and 65.*

2. The Appellants have demonstrated, consistent with *King County v. Boundary Review Board,* that development with significant adverse environmental impacts is probable after adoption of the proposed zoning amendments.

   A. The zoning amendments would facilitate the development of large-scale wind energy and other alternative energy facilities on or near lands known for their unique scenic resources and habitat value. Some of the alternative energy uses are not identified in the Comprehensive Plan or the existing zoning code. *Findings 3, 11, 12, 13, 14, 16, 18, 42, and 43.*

   B. The potential significant, adverse environmental impacts of large-scale wind energy facilities are many and well documented. The Hearing Examiner finds most compelling the evidence regarding aesthetic and wildlife impacts. These impacts can and should be evaluated on a planning level rather than when individual projects are proposed. With full environmental analysis, the County might decide to refine the zoning map or development regulations to avoid environmental impacts. *Findings 40 – 66.*

   C. Although based on the evidence submitted the Hearing Examiner is not convinced that an adverse impact to public health is probable if wind turbines are allowed to be sited less than 1.2 miles from residences, wind turbines do generate noise and the impact should be evaluated prior to adopting a setback standard. *Findings 71-77.*

   D. The significant, adverse environmental impacts associated with wind energy facilities are not ameliorated by the conditional use permit requirement. Under the proposed zoning amendments, a conditional use cannot be denied. *Finding 17.*

E. The significant, adverse environmental impacts associated with wind energy facilities would not be fully addressed by project-specific environmental impact statements. Because project proposals are tied to specific parcels of land, the ability to consider alternative locations that might reduce environmental impacts is limited.

F. Development of wind energy facilities is probable after the zoning action due to the County's unique wind resources, the County Commissioners' expressed interest in and support of alternative energy development, and the fact that a developer has already approached the County with a potential wind power project. *Findings 31-38.*

3. The significance of the County action is not diminished by the fact that only a small fraction of the County located outside of the scenic area and the incorporated areas is privately owned. Even five percent of the County's total acreage (an amount less than the actual private ownership) is a significant amount of land.[38] Further, no evidence or legal authority was presented to suggest that the County's regulations would not apply to the 60,000 acres of land owned by the State of Washington. Klickitat County, for example, is processing permit applications for wind energy facilities located on Washington DNR land. *Finding 40.* Finally, even if the County does not have jurisdiction to regulate public lands within its boundaries[39], the County's regulations might be influential to state and federal decision makers when evaluating requests for alternative energy facilities. For example, 36 CFR 251.56 states that special use approvals on National Forest land "may be conditioned to require State, county, or other Federal agency licenses, permits, certificates, or other approval documents, such as a Federal Communication Commission license, a Federal Energy Regulatory Commission license, a State water right, or a county building permit." *36 CFR 251.56(a)(2).*

4. Contrary to the County's assertion, the proposed wind energy regulations would not be preempted by the Washington Energy Facilities Site Locations Act (EFSLA) (Chapter 80.50 RCW) automatically. The EFSLA establishes a certification process that is mandatory for development of certain types of energy facilities (e.g., natural gas transmission pipelines in excess of 14 inches in diameter and 15 miles in length; stationary thermal power plants with generating capacity of 350,000 KW or more; facilities capable of processing more than 25,000 barrels per day of petroleum into refined products) but that is voluntary for the development of energy facilities that exclusively use alternative energy resources, such as wind, solar, geothermal, and biomass energy. *RCW 80.50.060; RCW 80.50.020(7), (11), (15), and (18).* When certification under the EFSLA is sought, the Energy Facility Site Evaluation Council holds a public hearing "to determine whether or not the proposed site is consistent and in compliance with city, county, or regional land use plans or zoning ordinances." *RCW*

[38] In *Ullock v. Bremerton*, 17 Wn. App. 573 (1977) the court reviewed an EIS prepared for a rezone of five acres.
[39] In *South Dakota Mining Assoc. v. Lawrence Co.*, 155 F.3d 1005 (1998), the court determined that federal laws allowing mining on National Forest land preempted a county ordinance prohibiting mining.

*80.50.090.* If the site is not consistent with the local ordinances, then the Council must determine whether to recommend to the governor that the state preempt the local ordinances. *WAC 463-28-060.* Even if the Council recommends preemption, it must include conditions in the draft certification agreement that considers local interests and the purposes of the ordinances that are preempted. *WAC 463-28-070.* The governor ultimately decides whether to approve the certification agreement. *RCW 80.50.100.* Because state preemption must be applied for, is discretionary, and is granted only after consideration of local ordinances, RCW 80.50 does not provide a rationale for avoiding full environmental review of the County's alternative energy regulations.

5. The Appellants have met their burden of proving that the County's issuance of a DNS was in error.

**DECISION**

Based upon the preceding Findings and Conclusions, the appeals of the October 8, 2008 Determination of Nonsignificance issued for the County's proposed zoning text and map amendments are granted. The Determination of Nonsignificance is reversed, and remanded to the County for preparation of an Environmental Impact Statement for the zoning text and map amendments.

Dated February 19, 2009.

Toweill Rice Taylor
Hearing Examiners for Skamania County
By:

LeAnna C. Toweill

## Appendix A
## Exhibit List

### County Exhibits

*Note: Citations to County Exhibit 1 items are to the "Administrative Record" (AR) page number only.*

1. Record for Skamania County SEPA on Planning Commission Recommended Draft Zoning Text and Map Revisions and Minor Comprehensive Plan Map Amendments, File No. SEP-08-35 (April, 2008 to November 3, 2008), which includes the following:

| Date | Description | Pages |
|---|---|---|
| 11/3/08 | Pre-Hearing Order from LeAnna Toweill, Hearing Examiner | 1-2 |
| 10/22/08 | Notice Administrative Appeal for SEP-08-35 from Reeves, Kahn, & Hennesy, Attorneys for Friends of the Gorge | 3-23 |
| 10/22/08 | Certificate of Mailing from Nathan J. Baker, Staff Attorney for Friends of the Gorge | 24-28 |
| 10/22/08 | Notice of Administrative Appeal and Certificate of Mailing for SEP-08-35 from Save Our Scenic Area, Richard Aramburu, Attorney | 29-42 |
| 10/20/08 | Email from Bonnie Anderson, Skamania County Planning Department - Administrative Assistant, to Nathan Baker | 43-44 |
| 10/14/08 | Affidavit of Publication for the Determination of Non-Significance SEP-08-35, Skamania County Pioneer | 45 |
| 10/8/08 | Determination of Non-Significance with no Checklist | 46-46A |
| 10/8/08 | Determination of Non-Significance with Checklist | 47 |
| 10/7/08 | Certificate of Mailing for SEP-08-35 by Bonnie Anderson | 64-68 |
| 10/2/08 | Publication notice for SEP-08-35 to Skamania County Pioneer | 69-70 |
| | Compact Disc - Klickitat County Energy Overlay Zone Draft EIS and Final EIS; Klickitat County Energy Overlay Zone - FEIS Documents Incorporated by Reference 1 of 2; Klickitat County Energy Overlay Zone - FEIS Documents Incorporated by Reference 2 of 2 | 71 |
| 9/2/08 | Skamania County Code Title 21 - Zoning - Planning Commissions Recommended Draft and Minor Comprehensive Plan Map Amendments | 72-232 |
| 8/2008 | Research for SEPA Determination and Zoning Ordinance (WA EFSEC Order on Remand, No. 831) | 233-237 |
| 5/2008 | Research for SEPA Determination Zoning Ordinance (SEPA checklists from other jurisdictions) | 238-333 |
| 4/2008 | Research for SEPA Determination Zoning Ordinance (checklists, WA noise standards, WDFW Windpower Guidelines) | 334-359 |

2. Full-size color map entitled "PC Recommended Draft Skamania County Zoning Map

### Appellant Save our Scenic Area Exhibits

*Note: Citations to SOSA Exhibits are to the numbers as listed. Exhibits 8.1, 8.2 and 8.3 were admitted into the record but not assigned exhibit numbers at the hearing. Numbers are assigned for the first time here.*

1.1 NINA PIERPONT, M.D., Ph.D., FAAP
Curriculum Vitae

Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated July 5, 2006

1.2 PIERPONT LETTER TO SCHWARTZ, GENOUILLE, FRANCE
Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated February 23, 2008

1.3 NOISY WIND AND HOT AIR
Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated May 7, 2005
Malone Telegram (New York)

1.4 HEALTH EFFECTS OF WIND TURBINE NOISE
Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated March 2, 2006
www.ninapierpont.com

1.5 WIND TURBINE SYNDROME
Testimony before the New York State Legislature Energy Committee explaining Wind Turbine Syndrome and wind turbine siting.
Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated March 7, 2006

1.6 LOCATION, LOCATION, LOCATION
Author: The Noise Association, UK Noise Association, 2nd Floor, Broken Wharf House, 2 Broken Wharf, London EC4V 3DT, U.K.
Dated July 2006
www.ukna.org.uk

1.7 NOISE RADIATION FROM WIND TURBINES INSTALLED NEAR HOMES: EFFECTS ON HEALTH
Authors: Barbara J. Frey, BA, MA, and Peter J. Hadden, BSc, FRICS
Dated February 2007
www.windturbinenoisehealthhumanrights.com

1.8 EFFECTS OF THE WIND PROFILE AT NIGHT ON WIND TURBINE SOUND
Author: G.P. van den Berg
Dated 2003 (Submitted to Elsevier Ltd Jan 2003, accepted Sept 2003)
www.elsevier.com/locate/jsvi (Journal of Sound and Vibration); www.sciencedirect.com,
g.p.van.den.berg@phys.rug.nl

1.9 INDUSTRIAL WIND TURBINES, INFRASOUND AND VIBRO-ACOUSTIC DISEASE (VAD)
Authors: Professor Mariana Alves-Pereira, School of Health Sciences, Lusofona University, Portugal and Dept. of Environmental Sciences and Engineering, New University of Lisbon, Portugal; Nuno Castelo Branco, MD, Surgical Pathologist and President, Scientific Board, Center for Human Performance.
Dated May 31, 2007
vibroacoustic.disease@gmail.com

1.10 INFRASOUND AND LOW FREQUENCY NOISE DOSE RESPONSES: CONTRIBUTIONS
Authors: Professor Mariana Alves-Pereira, School of Health Sciences, Lusofona University, Portugal and Dept. of Environmental Sciences and Engineering, New University of Lisbon, Portugal; Nuno Castelo Branco, MD, Surgical Pathologist and President, Scientific Board, Center for Human Performance.
Dated 28-31 August 2007
INTER-NOISE 2007, Istanbul, Turkey (International conference)

1.11 WHO HAS HEARD THE WIND

Author: Jules Smith
Dated 2006 (Copyright LightningStrike Studios)
www.lightningstrikestudios.com

1.12 WIND FARM NOISE AND REGULATIONS IN THE EASTERN UNITED STATES from the Second International Meeting on Wind Turbine Noise, Lyon, France, 2007
Author(s): Hilkat Soysal and Oguz Soysal, Department of Physics and Engineering, Frostburg State University, Frostburg MD
Dated September 20-21, 2007
renewable@frostburg.edu

1.13 WIND TURBINES, NOISE AND HEALTH
Author(s): Dr. Amanda Harry, M.B., Ch.B, P.G.Dip.E.N.T.
Dated February 2007

2.1 WIND TURBINES, FLICKER, AND PHOTOSENSITIVE EPILEPSY: CHARACTERIZING THE FLASHING THAT MAY PRECIPITATE SEIZURES AND OPTIMIZING GUIDELINES TO PREVENT THEM
Author(s): Graham Harding, Neurosciences Institute Aston University, Birmingham, U.K.; Pamela Harding, Neurosciences Institute Aston University; and Arnold Wilkins, Department of Psychology, University of Essex, Colchester, U.K.
Dated February 2008
Blackwell Publishing, Inc. International League Against Epilepsy.

2.2 Scenic Analysis

a. Diagram showing wind turbine placement.

b. Color diagram showing wind turbine placement and visibility from the National Scenic Area.

c. Visual simulation based on the turbine location map provided by SDS Lumber and the actual turbine height specification, demonstrating the visual impacts and providing help in understanding the visibility of project.

2.3 Topographical Map of Skamania County area

3.1 FRANCE'S NATIONAL ACADEMY OF MEDICINE CALLS FOR 1.5 KM SETBACK FOR ALL INDUSTRIAL WIND TURBINES FROM RESIDENCES
Translation of publication notice for "Repercussions of wind turbine operations on human health"
Author: Dr. Chantal Gueniot
Dated March 29, 2006

3.2 HEALTH, HAZARD AND QUALITY OF LIFE NEAR WIND POWER INSTALLATIONS; HOW CLOSE IS TOO CLOSE?
Author: Nina Pierpont, MD, PhD
Dated March 2, 2005
Malone Telegram, New York

4.1 WIND TURBINE SYNDROME: NOISE, SHADOW, FLICKER AND HEALTH
Author: Nina Pierpont, M.D., Ph.D., FAAP
Dated August 1, 2006
4.2 SUMMARY REPORT: LITERATURE SEARCH ON THE POTENTIAL HEALTH IMPACTS ASSOCIATED WITH WIND-TO-ENERGY TURBINE OPERATIONS
Author: Robert C. Frey, Ph.D, Chief, Health Assessment Section; John R. Kollman, R.S., Toxicologist, Health Assessment Section, Ohio Health Department.

Dated March, 2008
Health Assessment Section, Bureau of Environmental Health, Ohio Department of Health

4.3 IMPACT OF WIND FARMS ON PUBLIC HEALTH
Author: Kansas Legislative Research Department
Dated July 18, 2007 (Revised)
kslegres@klrd.state.ks.us, http://www.kslegislature.org/klrd

4.4 ENVIRONMENTAL IMPACTS OF WIND-ENERGY PROJECTS
Author: The National Academy of Sciences Committee on Environmental Impacts of Wind-Energy Projects (Board on Environmental Studies and Toxicology).
Dated 2007
National Academies Press, 500 Fifth Street, NW, Washington, D.C. 20001; www.nap.edu, http://books.nap.edu/catalog.php?record_id=11935

4.5 PROVISIONS OF THE PROPOSED STATE ENERGY PLAN ON INDUSTRIAL WIND-ENERGY DEVELOPMENT
Letter from Congressman Alan B. Mollohan, 1st Dist., WV, to the director of the West Virginia Division of Energy.
Author: Congressman Alan B. Mollohan, First District, West Virginia
Dated October 31, 2007
Alan B. Molloham, Congress of the United States, House of Representatives, 2302 Rayburn HOB, Washington DC 20515-4801

5.1 KITTITAS VALLEY WIND POWER PROJECT – FEIS Table of Contents[1] at
http://www.efsec.wa.gov/kittitaswind/FEIS/kvfeis.shtml

5.2 WILD HORSE WIND POWER PROJECT - EIS at
http://www.efsec.wa.gov/wildhorse/feis/whfeis.shtml

5.3 DESERT CLAIM WIND POWER PROJECT - FEIS Table of Contents at
http://www.efsec.wa.gov/Desert%20Claim/FEIS/FEIS.shtml[2]

5.4 STATELINE WIND ENERGY PROJECT – Federal Register: June 5, 2000 (Volume 65, Number 108)

5.5 KLICKITAT COUNTY ENERGY OVERLAY ZONE - FEIS available at
http://www.klickitatcounty.org/planning/ContentROne.asp?fContentIdSelected=2119658607&fCategoryIdSelected=948111261

6.1 WINDY POINT II WIND PROJECT - DS within scoping notice of 7/9/08 at
http://www.klickitatcounty.org/planning/FilesHtml/WPSN.pdf.

6.2 GOODNOE II WIND PROJECT - DS within scoping notice at
http://www.klickitatcounty.org/planning/FilesHtml/Goodnoe%20II%20Wind%20Project%20Scoping%20Notice.pdf

6.3 HARVEST WIND - DS within scoping notice of 4/24/08 at
http://www.klickitatcounty.org/Planning/ContentROne.asp?fContentIdSelected=549483787&fCategoryIdSelected=948111261

---

[1] Appellant SOSA offered the entire EIS but only provided the Table of Contents at the hearing. The Hearing Examiner did not visit the website and did not consider the remainder of the document.
[2] See Footnote 1.

6.4 JUNIPER CANYON - DS within scoping notice at
http://www.klickitatcounty.org/planning/FilesHtml/Juniper%20Canyon%20Scoping%20Notice.pdf

7.1 Resume of Rick James, E-Coustics Solutions

8.1 Evidence of Dr. Robyn Phipps, In the Matter of the Moturimu Wind Farm, March 2007
http://www.wind-watch.org/documents/writ of prohibition-content/uploads/phipps-moturimutestimony.pdf

8.2 Visual and Noise Effects Reported by Residents Living Close to Manawatu Wind Farms: Preliminary Survey Results, by Dr. Robyn Phipps at al.

8.3 Wind Turbine Syndrom, A Report on a Natural Experiment, by Nina Pierpont, MD, PhD (10-17-08 draft)

## Appellants Friends of the Columbia Gorge et al. Exhibits

*Note: Citations to these exhibits are to the letter/number combinations as listed. The "F" series documents are admitted for standing purposes only.*

| Ex. | Document Description | Date |
|---|---|---|
| A.1 | Air Quality Issues in the Columbia River Gorge National Scenic Area, USDA Forest Service, Pacific Northwest Region, Air Resource Management Program, available at http://www.fs.fed.us/r6/aq/gorgis.pdf | Apr. 1999 |
| A.2 | Excerpts from the Management Plan for the Columbia River Gorge National Scenic Area pertaining to the protection and enhancement of air quality, available at http://www.gorgecommission.org/managementplan.cfm | Adopted May 2000 |
| A.3 | Air Quality Biomonitoring in the Columbia River Gorge National Scenic Area by the US Forest Service, 1993-2001, Geiser, L. H. and B. Bachman, USDA Forest Service, Pacific Northwest Region, Air Resource Management Program, available at http://ocid.nacse.org/airlichenPDF/AQ_CRGNSA.pdf | Sep. 27, 2001 |
| A.4 | Ecological effects of nitrogen deposition in the western United States, Fenn, M.E., Baron, J.S., Allen, E.B., et al. *BioScience*, vol. 53, no. 4, pp. 404-20, available at http://www.cdphe.state,co.us/ap/rmnp/exhibith.pdf | Apr. 2003 |
| A.5 | Winter Deposition of Nitrogen and Sulfur in the Eastern Columbia River Gorge National Scenic Area, Mark E. Fenn and Timothy J. Blubaugh, USDA Forest Service, Pacific Southwest Research Station, available at http://www.fs.fed.us/psw/programs/atdep/col_river/crgnsa_final_report.pdf | Feb. 3, 2005 |
| B.1 | Landscape Aesthetics: A Handbook for Scenery Management, Forest Service, USDA (appendices omitted from exhibit), available at http:www.urbanforestrysouth.org/resources/library/landscape-aesthetics-ah-701-complete-document/at_download/file_name | Dec. 1995 |
| B.2 | Declaration of Margo Blosser | Sep. 2, 2008 |
| B.3 | Maps of wind turbine locations in southeast Skamania County visible from I-84 and Cook Underwood Road, Gorge GIS | Sep. 2, 2008 |
| B.4 | Declaration of Dean Apostol | Jan. 14, 2009 |
| B.5 | "Skamania County Alternative Energy Code Project" PowerPoint Presentation, Dean Apostol | Jan. 14, 2009 |
| C.1 | Development of a practical modeling framework for estimating the impact of wind technology on bird populations, Morrison, M.L. and K.H. Pollock, National Renewable Energy Laboratory, Golden, Colorado, available at http://www.nrel.gov/wind/pdfs/23088.pdf | Nov. 1997 |
| C.2 | Avian risk and fatality protocol, Morrison, M.L. and K.H. Pollock, National Renewable Energy Laboratory, Golden, Colorado, available at | 1998 |

| | | |
|---|---|---|
| | http://www.nrel.gov/docs/fy99osti/24997.pdf | |
| C.3 | Sample map of designated critical wildlife habitat circles surrounding Northern spotted owl site centers in a portion of Skamania County (Township 3N, Range 9E), Washington Department of Natural Resources | May, 2000 |
| C.4 | Excerpts from Chapter 22-16 of the Washington Administrative Code relevant to the protection of Northern spotted owls (*Strix occidentalis caurina*) in Skamania County | July 2001 |
| C.5 | The Butterflies of Cascadia: A Field Guide to All the Species of Washington, Oregon and Surrounding Territories, Robert Michael Pyle | 2002 |
| C.6 | Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines, U.S. Fish and Wildlife Service, available at http://www.fws.gov/habitatconservation/wind.pdf | May 13, 2003 |
| C.7 | Wind Turbine Interactions with Birds and Bats: A Summary of Research Results and Remaining Questions, National Wind Coordinating Committee, available at http://www.nationalwind.org/publications/wildlife/wildlife_factsheet.pdf | Nov. 2004 |
| C.8 | Relationships between Bats and Wind Turbines in Pennsylvania and West Virginia, An Assessment of Fatality Search Protocols, Patterns of Fatality, and B ehavioral Interactions with Wind Turbines: A Summary of Findings from the Bats and Wind Energy Cooperative's 2004 Field Season, Bats and Wind Energy Coooperative, available at http://www.batcon.org/wind/BWEC2004Reportsummary.pdf | 2005 |
| C.9 | Memo to Wind Energy Production and Wildlife Conservation Planners, Tuttle, M.D., available at http://www.protectpendleton.com/nbw_batmemo.htm | Jan. 2005 |
| C.10 | Wind Power: Impacts on Wildlife and Government Responsibilities for Regulating Development and Protecting Wildlife, US Government Accountability Office, available at http://www.gao.gov/new.items/d05906.pdf | Sep. 2005 |
| C.11 | Assessing Impacts of Wind-Energy Development on Nocturnally Active Birds and Bats: A Guidance Document, Kunz, T.H, Arnett, E.A., Cooper, B.M., et al. *Journal of Wildlife Managment*, 71(8):2449-2486, available at http://www.nationalwind.org/pdf/Nocturnal_MM_Final-JWM.pdf | Nov. 2007 |
| C.12 | Letter from Ted Labbe and Michael Ritter, Washington Department of Fish and Wildlife, to Karen Witherspoon, Skamania County Planning Department, regarding comments on 2008 draft Skamania County zoning update | June 5, 2008 |
| C.13 | American Society of Mammalogists unanimous resolution: Effects of wind-energy facilities on bats and other wildlife, available at http://www.wind-watch.org/documents/wp-content/uploads/asm-windenergyresolution.pdf | June 21-25, 2008 |
| C.14 | Barotrauma is a Significant Cause of Bat Fatalities at Wind Turbines, Baerwald, E.F., D'Amours, G.H., Klug, B.J, Barclay, R.M.R., Current Biology, Vol 18, R695-R696. | Aug. 26, 2008 |
| C.15 | Declaration of K. Shawn Smallwood | Sep. 2, 2008 |
| C.16 | Review of Habitat Assessment Report for Forest Road 25 and Loowit Lane, Steve Manlow, Washington Department of Fish and Wildlife | May 5, 2005 |
| C.17 | Potential development north of Swift Reservoir in Skamania County, known as the North County Area, Ken S. Berg, U.S. Fish and Wildlife Service | Dec. 8, 2005 |
| C.18 | Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines | Sept. 29, 2008 |
| C.19 | Avian and Bat Mortality at the Big Horn Wind Enery Project, Klickitat County, Washington, K. Shawn Smallwood | Oct. 18, 2008 |
| C.20 | How *too much* wind power may hurt salmon, Dan Tilkin, KATU 2 Portland, available at http://www.katu.com/outdoors/featured/33967994.html | Nov. 21, 2008 |
| C.21 | Second Declaration of K. Shawn Smallwood | Dec. 8, 2008 |
| D.1 | Washington wind power and speed maps, Northwest Sustainable Energy for Economic Development, available at http://www.windpowermaps.org/windmaps/states.asp#washington | June 2002 |
| D.2 | Washington - Wind Power Resource Estimates map, National Renewable Energy Laboratory, | June 7, |

| | | |
|---|---|---|
| | U.S. Department of Energy, available at http://wdfw.wa.gov/hab/engineer/major_projects/graphics/wind_power_resource_estimates_map.jpg | 2002 |
| D.3 | Permitting of Wind Energy Facilities: A Handbook, National Wind Coordinating Committee, available at http://www.nationalwind.org/publications/siting/permitting2002.pdf | Aug. 2002 |
| D.4 | Current and Proposed Wind Project Interconnections to BPA Transmission Facilities, Bonneville Power Administration, available at http://www.transmission.bpa.gov/PlanProj/Wind/documents/Windmap_external_03242008_8-5x11.pdf | Mar. 27, 2008 |
| D.5 | Excerpts from Klickitat County's Energy Overlay Zone Final EIS | Sep. 2004 |
| D.6 | Agenda and materials, Columbia Gorge Bi-State Renewable Energy Zone Leadership Meeting, Mid-Columbia Economic Development District | Oct. 19, 2007 |
| D.7 | *Rose v. Chaikin*, 187 N.J. Super. 210, 453 A.2d 1378 (1982). | Nov. 10, 1982 |
| D.8 | *Burch v. Nedpower Mt. Storm, LLC*, 220 W. Va. 443, 647 S.E.2d 879 (2007) | June 8, 2007 |
| D.9 | *Wind Energy Siting Handbook*, American Wind Energy Association, available at http://www.awea.org/sitinghandbook/ | Feb. 2008 |
| E.1 | Memorandum regarding Cascade Wind Project Update for March 2008, Adam Bless, Oregon Department of Energy | March 13, 2008 |
| E.2 | Map of approved and proposed wind projects in Klickitat county | Apr. 30, 2008 |
| E.3 | Windy Point II Wind Farm Project EOZ Application | May 23, 2008 |
| E.4 | Notice of Community Meeting, Windy Point II Windpower Project, Klickitat County | May 27, 2008 |
| E.5 | Determination of Significance and Request for Comments on Scope of EIS, Goodnoe II project, EOZ2008-05 and SEP2008-31, Klickitat County | July 14, 2008 |
| F.1 | Declaration of Chris Lloyd | Aug. 31, 2008 |
| F.2 | Declaration of Renee Tkach | Sep. 2, 2008 |
| F.3 | Declaration of Kevin Gorman | Sep. 2, 2008 |
| F.4 | Second Declaration of Chris Lloyd | Dec. 8, 2008 |
| F.5 | Second Declaration of Kevin Gorman | Dec. 8, 2008 |
| F.6 | Second Declaration of Renee Tkach | Dec. 8, 2008 |
| F.7 | Declaration of Mary Repar | Dec. 8, 2008 |
| F.8 | Declaration of Brett VandenHeuvel | Dec. 9, 2008 |
| F.9 | Declaration of Emily Platt | Dec. 9, 2008 |
| G.1 | Resume/CV of Dean Apostol | Aug. 2008 |
| G.2 | Resume/CV of Margo Blosser | Sep. 2008 |
| G.3 | Resume/CV of Carl Dugger | Sep. 2008 |
| G.4 | Resume/CV of K. Shawn Smallwood | Sep. |

| | | |
|---|---|---|
| | | 2008 |
| H.1 | BPA Transmission Lines by kV, Bonneville Power Administration, available at http://www.bpa.gov/corporate/pubs/EX_A_BPA_Service_Area.pdf | Apr. 17, 1998 |
| H.2 | Determination of Significance and Request for Comments on Scope of EIS, Klickitat Count (regarding the possible amendment of the County's comprehensive plan and development regulations to provide for the development of energy resources) | June 6, 2002 |
| H.3 | Gifford Pinchot National Forest Vicinity Map, Gifford Pinchot National Forest, USDA Forest Service, available at http://www.fs.fed.us/gpnf/04maps/documents/gpnf-forest-vicinity-map-20080730_11x17_000.pdf | July 30, 2008 |
| H.4 | Skamania County Ordinance 2008-01, available at http://www.skamaniacounty.org/Ordinances_2008/Ord%202008-01%20Moratorium%20Extension%20Unzoned%20Land.htm | Jan. 8, 2008 |
| H.5 | Comments on Skamania County Proposed Zoning Amendments, Nathan Baker, Friends of the Columbia Gorge | Oct. 22, 2008 |
| H.6 | Comments on Skamania County Proposed Title 21 Zoning Amendments, Richard F. Till, Friends of the Columbia Gorge | Oct. 22, 2008 |
| H.7 | MCEDD Rural Cluster Project: Renewable Energy Cluster, Mid-Columbia Economic Development District, available at http://www.oregonclusters.org/Docs/MCEDD%20Ren%20Energy%20cluster.doc | N/A |
| H.8 | Minutes for the December 18, 2007 Meeting, Board of Skamania County Commissioners, available at http://www.skamaniacounty.org/Minutes_Files_2007/Minutes%2012-18-07.htm | Dec. 18, 2007 |
| H.9 | Skamania County Resolution 2007-59, available at http://www.skamaniacounty.org/Resolutions_2007/Res%20200759%20Renewable%20Energy.htm | Dec. 18, 2007 |
| H.10 | Annual Performance Report, July 1, 2007 to June 30, 2008, Mid-Columbia Economic Development District, available at http://www.mcedd.org/documents/FY2008MCEDDAnnualoReport.pdf | June 30, 2008 |
| H.11 | Minutes for the September 30, 2008 Meeting, Board of Skamania County Commissioners, available at http://www.skamaniacounty.org/Minutes_Files_2008/Minutes%2009-30-08.htm | Sep. 30, 2008 |
| H.12 | Skamania County Resolution 2008-51 | Sep. 30, 2008 |
| H.13 | Skamania County Commission home page, available at http://www.skamaniacounty.org/commissioners1.htm | Jan. 5, 2009 |
| H.14 | Minutes for the week of December 23, 2008, Board of Skamania County Commissioners, available at http://www.skamaniacounty.org/Minutes_Files_2008/Minutes%2012-23-08.htm | Dec. 23, 2008 |